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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,903	12/28/2000	Paul Kirkby	476-1981	2728

23644 7590 04/11/2006
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EXAMINER

NGUYEN, HAI V

ART UNIT PAPER NUMBER

2142

DATE MAILED: 04/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/750,903

Applicant(s)

KIRKBY ET AL.

Examiner

Hai V. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the communication received on 23 January 2006.
2. Claims 1-20 are cancelled.
3. Claims 21-36 are presented for examination.

Response to Arguments

4. Applicant's arguments, filed on 23 January 2006, with respect to the rejection(s) of claim(s) 21, 29, 35 under 35 USC 103(a) rejection have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection as follows:

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 21-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Knightly et al. U.S patent # 6,801,501** in view of **Krishnamurthy et al. U.S. patent application publication #: 2001/0025310 A1**.
7. As to claim 21, Knightly, Method and Apparatus For Performing Measurement-Based Admission Control Using Peak Rate Envelopes, discloses a method of controlling admission of a traffic flow to a communications network, the method comprising the steps of:

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sampling an aggregated traffic flow on a network resource to which the traffic flow is to be admitted to obtain a mean bandwidth measurement and a bandwidth variance measurement of said aggregated traffic flow (*Figs. 2-6*); However, Knightly does not explicitly disclose determining from said mean bandwidth and variance measurements a price for bandwidth and a separate price for variance.

In the same field of endeavor, Krishnamurthy, related System Pricing-Based Quality of Service (PQoS) Control IN Networks, discloses, in analogous art, that determining from said mean bandwidth and variance measurements a price for bandwidth and a separate price for variance (*paragraphs [0030]-[0032], [0126], [0130]-[0141]*).

Accordingly, it would have been obvious to one of ordinary skill in the networking management art at the time the invention was made to have incorporated

Krishnamurthy's teachings of pricing-based quality of service controlling (*title, Abstract, (paragraphs [0030]-[0032], [0126], [0130]-[0141])*) with the teachings of Knightly, for the purpose of *offering flexibility and simplicity to service users (Krishnamurthy, paragraph [0005])*.

Knightly-Krishnamurthy discloses sampling the traffic flow to be admitted to the network resource to measure its mean bandwidth and variance (*Knightly, Figs. 6-11, col. 12, line 12 – col. 6, line 59*); and

Knightly-Krishnamurthy discloses applying to said traffic flow the separate prices for bandwidth and variance as a means of controlling admission of the traffic flow to the network resource (*Krishnamurthy, title, Abstract, (paragraphs [0030]-[0032], [0126], [0130]-[0141])*).

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8. As to claim 22, Knightly-Krishnamurthy discloses, wherein the price for bandwidth is determined as a price for unit bandwidth and the price for variance is determined as a price for unit variance (*Krishnamurthy, title, Abstract, (paragraphs [0030]-[0032], [0126], [0130]-[0141])*).

9. As to claim 23, Knightly-Krishnamurthy discloses, wherein a total price for admission of the traffic flow to the network resource is provided to an admission controller of said traffic flow, said total price comprising the sum of the following products: i) the measured mean bandwidth of the traffic flow times the price per unit bandwidth for using the network resource; and ii) the variance of the traffic flow times the price per unit variance for using the network resource (*Krishnamurthy, title, Abstract, (paragraphs [0030]-[0032], [0126], [0130]-[0141])*).

10. As to claim 24, Knightly-Krishnamurthy discloses, wherein an admission controller associated with the traffic flow regulates at least one of the mean bandwidth and variance of said traffic flow (*Knightly, Figs. 6-11, col. 12, line 12 – col. 6, line 59*).

11. As to claim 25, Knightly-Krishnamurthy discloses, wherein said admission controller comprises an ingress controller in an edge node of the communications network (*Knightly, Figs. 6-11, col. 12, line 12 – col. 6, line 59*).

12. As to claim 26, Knightly-Krishnamurthy discloses, wherein respective maximum control limits are defined for both the mean bandwidth and bandwidth variance components of the aggregated traffic flow on the network resource (*Knightly, Figs. 6-11, col. 12, line 12 – col. 6, line 59*), and wherein at least one of said price for bandwidth and price for variance is increased as any of the mean bandwidth and variance

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measurements of said aggregated traffic flow approaches its respective limit

(Krishnamurthy, title, Abstract, (paragraphs [0030]-[0032], [0126], [0130]-[0141])).

13. As to claim 27, Knightly-Krishnamurthy discloses, wherein the determination of the bandwidth price is a function of the difference between the measured mean bandwidth of the aggregated traffic flow and the mean bandwidth control limit, and of the first and second derivatives against time of said function *(Krishnamurthy, title, Abstract, (paragraphs [0030]-[0032], [0126], [0130]-[0141])).*

14. As to claim 28, Knightly-Krishnamurthy discloses, wherein the determination of the variance price is a function of the difference between the control limit and the sum of the measured variance of the aggregated traffic flow and a standard deviation corresponding to said variance, and of the first and second derivatives against time of said standard deviation *(Krishnamurthy, title, Abstract, (paragraphs [0030]-[0032], [0126], [0130]-[0141])).*

15. Claim 29 is corresponding an apparatus plus function claim of claim 21; therefore, it is rejected under the same rationale as in claim 21.

16. Claims 30-34 are similar limitations of claims 22-23, 26-28; therefore they are rejected under the same rationale as in claims 22-23, 26-28.

17. Claim 35 is corresponding an apparatus claim of claim 21; therefore, it is rejected under the same rationale as in claim 21.

18. Claim 36 is corresponding a computer readable medium claim of claim 21; therefore, it is rejected under the same rationale as in claim 21.

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19. Further references of interest are cited on Form PTO-892, which is an attachment to this action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai V. Nguyen whose telephone number is 571-272-3901. The examiner can normally be reached on 6:00-3:30 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on 571-272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hai V. Nguyen
Examiner
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THONG VU
P-E.

